

housing, said nozzle having a discharge opening for injecting the molten plastic into the mold cavity;

a shank portion of said nozzle having an outer end portion and an inner end portion providing said detachable connection of said nozzle with said housing;

an enlarged flange on said shank portion of said nozzle at a location between said inner and outer end portions and adjacent to said shoulder;

internal threads on said nozzle housing extending at a location spaced outwardly from said nozzle when the nozzle is connected to the housing; and

a sleeve having a threaded connection with said internal threads on the nozzle housing and being adapted to be tightened on said internal threads to a position adjacent said flange to lock the nozzle to said nozzle housing, said sleeve fitting on said nozzle in a manner to present a gap between said sleeve and said shank portion along a majority of the length of said outer end portion of said shank portion.

2. A nozzle assembly as set forth in claim 1, wherein said housing presents a bore having a relatively small portion into which said nozzle is threaded and a relatively large portion presenting said internal threads.

3. ~~[Deleted]~~.

B
B a²
3
4. A nozzle assembly as set forth in claim 1 ~~[3]~~, including a second shoulder in said bore and an ~~enlarged flange on said nozzle~~ end of said shank portion adjacent to said second shoulder.

5. A nozzle assembly as set forth in claim 2, wherein said sleeve is disposed in said relatively larger portion of said bore between said nozzle and said internal threads on said housing.

B
6
6. (Amended). A nozzle assembly as set forth in claim 1, wherein said housing has a base and a barrel extending from said base, said barrel having an internally threaded bore, said shank portion of said nozzle having a threaded connection with said internally threaded bore to establish said detachable threaded connection.

B
6
7. A nozzle assembly as set forth in claim 6, wherein said bore terminates at a second shoulder presented in said barrel, said ~~nozzle having a~~ shank portion being threaded into said bore adjacent to said second shoulder.

8. ~~[Deleted].~~

9. ~~[Deleted].~~

10. [Deleted].

11. (Amended). A nozzle assembly as set forth in claim 1 [8], wherein said sleeve has an end adjacent to said flange.

12. (Amended). A nozzle assembly for injecting molten plastic into a mold cavity in a continuous high volume molding process for molding thin walled parts, said nozzle assembly comprising:

a nozzle housing having a base and a barrel extending from said base, said housing presenting a passage therethrough for receiving the molten plastic;

a shoulder in said passage facing away from said base;

an end portion of said barrel presenting a bore connecting with said passage;

a nozzle having an externally threaded shank and a nozzle head on said shank, said shank having an outer end portion and an inner end portion presenting external threads establishing a threaded connection with said bore to connect said nozzle with said housing;

an enlarged flange on said shank located adjacent to but spaced from said shoulder to present a heat expansion gap between said flange and shoulder;

a passageway through said nozzle communicating with said passage when the nozzle is connected with the housing;

at least one discharge opening in said nozzle head for receiving molten plastic from said passageway and injecting the plastic into the mold cavity; and

8 a sleeve threaded into said bore and having a fully tightened condition wherein said sleeve ~~prevents~~ is adjacent to said flange to prevent the nozzle from unthreading from the housing, said sleeve fitting on said nozzle in a manner to present a gap between said sleeve and said outer end portion of said shank along a majority of the length of said outer end portion of said shank.

13. (Amended). A nozzle assembly as set forth in claim ¹12, wherein said bore terminates at a second shoulder presented in said barrel, said shank being threaded into said bore adjacent to said second shoulder.

14. ~~[Deleted]~~.

15. (Amended). A nozzle assembly for injecting molten plastic into a mold cavity in a continuous high volume molding process for molding thin-walled parts, said nozzle assembly comprising:

a nozzle housing having a barrel presenting a passage therethrough for receiving the molten plastic, said barrel terminating in an end;

an internally threaded bore in said barrel extending into said end thereof, said bore having threaded first and second portions and presenting a first shoulder at one end of said first portion and a second shoulder between said first and second portions;

B 11
15
a nozzle having a shank and a nozzle head presenting a discharge opening for injecting molten plastic into the mold cavity, said shank having an outer end portion and an inner end portion which is ~~[being]~~ externally threaded and ~~[being]~~ threaded into said first portion of said bore and said shank having an end adjacent to but spaced from said first shoulder to provide a heat expansion gap between said end of the shank and said first shoulder;

an enlarged flange on said shank adjacent said second shoulder;

a passageway through said nozzle providing a flow path for the molten plastic between said passage and said discharge opening; and

an externally threaded sleeve threaded into said second portion of said bore adjacent to [a surface of said shank] said flange to secure the nozzle to said housing, said sleeve fitting on said nozzle in a manner to present a gap between said sleeve and outer end portion of said shank along a majority of the length of said outer end portion of said shank.

16. ~~[Deleted]~~.